

CLAIMS

1. A piezoelectric actuator, comprising:

a hinge plate which has a central portion, two lateral portions, and two limbs, the central portion having both ends and being allowed to be divided between both the ends, the two lateral portions extending point-symmetrically from both ends of the central portion, and the two limbs extending point-symmetrically and non-linear symmetrically from both ends of the central portion and being capable of rotating toward and away from the lateral portions; and

a piezoelectric element to which the two limbs of the hinge plate are attached firmly and which brings the two limbs toward and away from each other when it expands or contracts by application and removal of voltage.

2. An information storage device, comprising:

a head section carrying a head which executes at least one of information recording and information reproduction on/from a predetermined information storage medium;

an arm section which holds the head section in order for the head mounted on the head section to approach or contact the information storage medium;

an arm actuator which drives the arm section to move the head mounted on the head section held by the arm section over the information storage medium; and

a head actuator which rotates the head section with respect to the arm section, wherein the head actuator comprising:

a hinge plate which has a central portion, two lateral portions, and two limbs, the central portion having both ends and being allowed to be divided between both the ends, the two lateral portions extending point-symmetrically from both ends of the central portion, and the two limbs extending point-symmetrically and non-linear symmetrically from both ends of the central portion and being capable of bending toward and away from the lateral portions; and

a piezoelectric element to which the two limbs of the hinge plate are attached firmly and which brings the two limbs toward and away from each other when it expands or contracts by application and removal of voltage.

3. The information storage device according to claim 2, wherein the head actuator rotates the head section around the center of gravity of the head section.

4. The information storage device according to claim 2, wherein the hinge plate is formed integrally with the arm section.

5. The information storage device according to claim 2, wherein the hinge plate is formed integrally with the head section.

6. The piezoelectric actuator and the information storage device according to claims 1 and 2, wherein the piezoelectric element is based on longitudinal piezoelectric effects (33 mode).

7. The piezoelectric actuator and the information storage device according to claims 1 and 2, wherein the piezoelectric element is based on transverse piezoelectric effects (31 mode).